ABSTRACT

Methods and compositions of a surface plasmon resonance enhanced body treatment and bacterial management are described. Under the enhanced interaction of surface plasmon resonance and a metal nanoparticle with a nearby biological substance, the biological substance is biochemically and/or biophysically modified or destroyed. The methods and compositions use electromagnetic radiation at a single wavelength or plurality wavelengths of 200 nm to 10,000 nm, metal nanoparticles in size 1 nm to 20,000 nm, inorganic or organic chemical agents, and one-photon or multi-photon modes of electromagnetic radiation for surface plasmon resonance generation.